UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/706,124 | 11/12/2003 | Kaoru Okumura | M61.12-0548 | 6217 |

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| EXAMINER |
|---|
| LOVEL, KIMBERLY M |

| ART UNIT | PAPER NUMBER |
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| 2167 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/706,124 | OKUMURA, KAORU |
| | Examiner | Art Unit | |
| | Kimberly Lovel | 2167 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on <u>*10 September 2007*</u>.

2a)☐ This action is **FINAL.**  2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8,10 and 20-28* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8, 10 and 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All  b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

# DETAILED ACTION

1.      Claims 1-8, 10 and 20-28 are rejected.  Claims 9 and 11-19 have been

cancelled.

## *Continued Examination Under 37 CFR 1.114*

2.      A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection.  Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114.  Applicant's submission filed on 11 June

2007 has been entered.

## *Claim Rejections - 35 USC § 103*

3.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.      **Claims 1-3, 6-8, 10 and 20-28 are rejected under 35 U.S.C. 103(a) as being**

**unpatentable over US PGPub 2005/0027691 to Brin et al (hereafter Brin) in view of**

**US PGPub 2003/0097252 to Mackie (hereafter Mackie).**

**Referring to claim 1**, Brin discloses a method for making additional terms available to a searching process (see [0011]), the method comprising:

receiving an input string that incorporates a plurality of characters and at least two intervening spaces, wherein the input string includes N words [car repair help] (see [0031]);

providing the input string and the additional terms to the search process [one or more words related to at least one of the original terms 41 could be disjunctively added to the original query 40] (see [0033]); and

displaying a search result [results are generated for display] (see [0027]) identified by the search process as being related to at least one of the additional terms [the search engine 21 would then execute the expanded query using the broadened list of terms] (see [0033], lines 1-5).

While Brin discloses the limitations of an input string containing N words and providing additional terms by the formation of compound terms (see [0039]), Brin fails to explicitly disclose the further limitations of N being greater than 3 and concatenating the plurality of characters to form additional terms, wherein the additional terms are (N-1)(N/2) combinations of words selected from the N words based on word adjacency and providing additional terms by the formation of compound terms. The background of Mackie discloses the further limitations of concatenating the plurality of characters to form additional terms, wherein the additional terms are (N-1)(N/2) [this formula provides every combination available through concatenation of adjacent words] combinations of words selected from the N words based on word adjacency [many languages, such as

German, permit the construction of novel compound words by a process of iterative concatenation] (see [0004], lines 1-3).

It would have been obvious at the time of the invention to combine the technique of Mackie to form the compound terms of Brin. One would have been motivated to do so in order to provide an active and efficient way of creating new words, since storing all meaningful compounds in a dictionary base is, quite simply, impossible (Mackie: see [0006], lines 7-11).

The combination of Mackie and Brin (hereafter Mackie/Brin) fails to explicitly disclose the further limitation of an input string containing N words. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a string consisting of more than 3 words since it is well known that German compound words can be created from more than 3 words.

**Referring to claim 2**, Mackie/Brin discloses the method of claim 1, wherein, receiving an input string comprises receiving an input string that incorporates a first set of characters separated by a space from a second set of characters [Abschreibung moglichkeiten]; and concatenating comprises concatenating the first and second sets of characters [Abschreibungsmoglichkeiten] (Mackie: see [0005]).

**Referring to claim 3**, Mackie/Brin discloses the method of claim 2, wherein at least one of the first and second sets of characters are each is a single character [s and moglichkeiten] (Mackie: see [0005]).

**Referring to claim 6**, Mackie/Brin discloses the method of claim 1, and further comprising suppressing at least one of the additional terms (Brin: see [0035]).

**Referring to claim 7**, Mackie/Brin discloses the method of claim 1, wherein the method is executed upon a client system (Brin: see [0024]).

**Referring to claim 8**, Mackie/Brin discloses the method of claim 1, wherein the method is executed upon a server (Brin: see [0024]).

**Referring to claim 10**, Mackie/Brin discloses the method of claim 1, wherein the input string is a search string [search query 40] (Brin: see [0031], lines 1-6).

**Referring to claim 20**, Brin discloses a method for providing additional search terms to a search process (see [0011]), the method comprising:

receiving an input string that incorporates a plurality of characters and at least two intervening spaces, wherein the input string includes N words [car repair help] (see [0031]);

providing the input string and at least one of the additional terms to the search process [one or more words related to at least one of the original terms 41 could be disjunctively added to the original query 40] (see [0033]);

generating a search result as a function of at least one of the additional terms [the search engine 21 would then execute the expanded query using the broadened list of terms] (see [0033], lines 1-5); and

providing an output indicative of the search result [results are generated for display] (see [0027]).

While Brin discloses the limitations of an input string containing N words and providing additional terms by the formation of compound terms (see [0039]), Brin fails to explicitly disclose the further limitations of N being greater than 3 and concatenating the

plurality of characters to form additional terms, wherein the additional terms are (N-1)(N/2) combinations of words selected from the N words based on word adjacency and providing additional terms by the formation of compound terms. The background of Mackie discloses the further limitations of concatenating the plurality of characters to form additional terms, wherein the additional terms are (N-1)(N/2) [this formula provides every combination available through concatenation of adjacent words] combinations of words selected from the N words based on word adjacency [many languages, such as German, permit the construction of novel compound words by a process of iterative concatenation] (see [0004], lines 1-3).

It would have been obvious at the time of the invention to combine the technique of Mackie to form the compound terms of Brin. One would have been motivated to do so in order to provide an active and efficient way of creating new words, since storing all meaningful compounds in a dictionary base is, quite simply, impossible (Mackie: see [0006], lines 7-11).

The combination of Mackie and Brin (hereafter Mackie/Brin) fails to explicitly disclose the further limitation of an input string containing N words. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a string consisting of more than 3 words since it is well known that German compound words can be created from more than 3 words.

**Referring to claim 21**, Mackie/Brin discloses the method of claim 20, further comprising excluding at least one of the additional terms from the search process (Brin: see [0035]).

**Referring to claim 22,** Mackie/Brin discloses the method of claim 20 wherein at least one of the additional search terms comprises exactly two of the N words and at least one of the additional search terms comprises exactly three of the N words [one or more words related to at least one of the original terms 41 could be disjunctively added to the original query 40] (Brin: see [0033]). While Mackie/Brin fails to explicitly disclose supplying a two word combination and a three word combination, it would have been obvious to do this since when creating a list of all possible variations, these exist in the list. One would have been motivated to do so in order to provide accurate search results.

**Referring to claim 23,** Mackie/Brin discloses the method of claim 22 wherein at least one of the additional search terms comprises exactly four of the N words [one or more words related to at least one of the original terms 41 could be disjunctively added to the original query 40] (Brin: see [0033]). While Mackie/Brin fails to explicitly disclose supplying a four word combination, it would have been obvious to do this since when creating a list of all possible variations, these exist in the list. One would have been motivated to do so in order to provide accurate search results.

**Referring to claim 24,** Mackie/Brin discloses the method of claim 20 wherein providing at least one of the additional search terms to the search process comprises providing less than all of the additional search terms to the search process (Brin: see [0035]).

**Referring to claim 25**, Mackie/Brin discloses the method of claim 20 wherein

providing an output comprises displaying [results are generated for display] (Brin: see

[0027]).

**Referring to claim 26**, Brin discloses a method for making additional terms

available to a searching process (see [0011]), the method comprising:

receiving an input string that incorporates a plurality of characters and at least

two intervening spaces, wherein the input string includes N words [car repair help] (see

[0031]);

providing the input string and at least one of the additional terms to the search

process [one or more words related to at least one of the original terms 41 could be

disjunctively added to the original query 40] (see [0033]);

generating a search result as a function of at least one of the additional terms

[the search engine 21 would then execute the expanded query using the broadened list

of terms] (see [0033], lines 1-5); and

providing an output indicative of the search result [results are generated for

display] (see [0027]).

While Brin discloses the limitations of an input string containing N words and

providing additional terms by the formation of compound terms (see [0039]), Brin fails to

explicitly disclose the further limitations of N being greater than 3 and generating (N-

1)(N/2) additional search terms, wherein each of the additional search terms is formed

by eliminating some or all of the intervening spaces, and wherein each additional term is

a combination of words in the N words that are adjacent to one another. The

background of Mackie discloses the further limitation generating $(N-1)(N/2)$ [this formula

provides every combination available through concatenation of adjacent words]

additional search terms, wherein each of the additional search terms is formed by

eliminating some or all of the intervening spaces, and wherein each additional term is a

combination of words in the N words that are adjacent to one another [many languages,

such as German, permit the construction of novel compound words by a process of

iterative concatenation] (see [0004], lines 1-3).

It would have been obvious at the time of the invention to combine the technique

of Mackie to form the compound terms of Brin. One would have been motivated to do

so in order to provide an active and efficient way of creating new words, since storing all

meaningful compounds in a dictionary base is, quite simply, impossible (Mackie: see

[0006], lines 7-11).

The combination of Mackie and Brin (hereafter Mackie/Brin) fails to explicitly

disclose the further limitation of an input string containing N words. It would have been

obvious to one of ordinary skill in the art at the time of the invention to utilize a string

consisting of more than 3 words since it is well known that German compound words

can be created from more than 3 words.

**Referring to claim 27**, Mackie/Brin discloses the method of claim 26 wherein at

least one of the additional search terms includes exactly two of the N words and at least

one of the additional search terms includes exactly three of the N words [one or more

words related to at least one of the original terms 41 could be disjunctively added to the

original query 40] (see [0033]). While Mackie/Brin fails to explicitly disclose supplying a

two word combination and a three word combination, it would have been obvious to do

this since when creating a list of all possible variations, these exist in the list. One

would have been motivated to do so in order to provide accurate search results.

**Referring to claim 28**, Mackie/Brin discloses the method of claim 26 further

comprising excluding at least one of the additional terms from the search process (Brin:

see [0035]).


5.      **Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable**

**over US PGPub 2005/0027691 to Brin et al in view of US PGPub 2003/0097252 to**

**Mackie as applied to claim 1 above, and further in view of US PGPub**

**2003/0088547 to Hammond (hereafter Hammond).**

**Referring to claim 4**, Mackie/Brin fails to explicitly disclose the further limitation

of preprocessing the input string. Hammond discloses expanding an input query (see

abstract), including the further limitation of preprocessing the input string [parsing out

extraneous information] (see [0039]).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to apply the step disclosed by Hammond of preprocessing the input string to

the search string of Mackie/Brin. One would have been motivated to do so since it is

well known that preprocessing increases the capability of providing accurate search

results.

**Referring to claim 5**, the combination of Mackie/Brin and Hammond discloses

the method of claim 4, wherein preprocessing includes removing at least one

extraneous character from the input string (Hammond: see [0039], lines 4-7).


### *Response to Arguments*

6.　　In response to Applicant's comments on page 6 of the Remarks concerning the

interview, the examiner suggested that incorporating the formula into the independent

claim might overcome the prior art.　However, upon further consideration, it has been

determined that the formula $(N-1)(N/2)$ merely creates all possible additional terms and

is not limiting the number additional terms created.　For instance, if the query "A B C D"

was entered then 6 [calculated from $(4-1)(4/2)$] additional terms would be supplied.　The

possibility of additional terms based on adjacency are the following: AB, BC, CD, ABC,

BCD and ABCD.

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kimberly Lovel
Examiner
Art Unit 2167

9 December 2007
kml
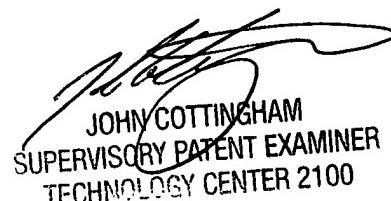
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